BIMODAL CATALYST-UREA SCR SYSTEM FOR ENHANCED NO_x CONVERSION AND DURABILITY

Abstract of Disclosure

The present invention discloses a method for reducing NO_x in exhaust gases of an internal combustion engine. The purpose of this invention is to convert engine out NO_x (approximately 90% NO in diesel exhaust) into roughly a 50:50 mixture of NO and NO_2, while simultaneously oxidizing engine-out hydrocarbons which interfere with the reduction of NO_x by urea or ammonia. The present invention demonstrates that a 50:50 blend of NO and NO_2 is reduced more rapidly and with higher efficiency than a gas stream which is predominantly NO. In addition, catalyst in an engine exhaust that is a 50:50 mixture of NO and NO_2 is far more resistant to hydrothermal deterioration than using NO alone. In another embodiment of the present invention, a vehicle exhaust system utilizing the method of the present invention is provided.

Figures